

5
SEQ ID NO:12 1 MKLHGLGILVAILLY-EQHGFAFQSGQVLSALPRTSRQVQLLQNLTTTYEVVLWQPVTAE
SEQ ID NO:13 1 MKLYGLGVLVAILLY-EKHGLAFQSGHVLSALPRTSRQVQLLQNLTTTYEVVLWQPVTAE
SEQ ID NO:2 1 MKLCSLAVLVPIVLFCEQHVFAFQSGQVLAALPRTSRQVQVLQNLTTTYEIVLWQFVTAD

10
SEQ ID NO:12 60 FIEKKKEVHFFVNASDSDSVKAHLNVSRI PFNVLMNNVEDLIEQQTFNDTVSPRASASY
SEQ ID NO:13 60 FIEKKKEVHFFVNASDVNSVKAYLNASRI PFNVLMNNVEDLIQQQTSNDTVSPRASSSY
SEQ ID NO:2 61 LIVKKKQVHFFVNASDSDNVKAHLNVSRI PCVLLADVEDLIQQQISNDTVSPRASASY

15
SEQ ID NO:12 120 EQYHSLNEIYSWIEVITEQHPDMLQKIYIGSSFEKYPLYVLKVSGKEQRIKNAIWIDCGI
SEQ ID NO:13 120 EQYHSLNEIYSWIEVITEQHPDMLQKIYIGSSYEKYPLYVLKVSGKEHRVKNAIWIDCGI
SEQ ID NO:2 121 EQYHSLNEIYSWIEFITERHPDMLTKIHIGSSFEKYPLYVLKVSGKEQAANKNAIWIDCGI

20
SEQ ID NO:12 180 HAREWISPAFCLWFIGYVTQFHGKENLYTRLRLRHVDFYEMPVMNVDGYDTWKKNRMWRK
SEQ ID NO:13 180 HAREWISPAFCLWFIGYVTQFHGKENTYTRLRLRHVDFYEMPVMNVDGYDTWKKNRMWRK
SEQ ID NO:2 181 HAREWISPAFCLWFIGHTITQFYGIIGQYTNLLRLVDFYMPVVNVDGYDSWKKNRMWRK

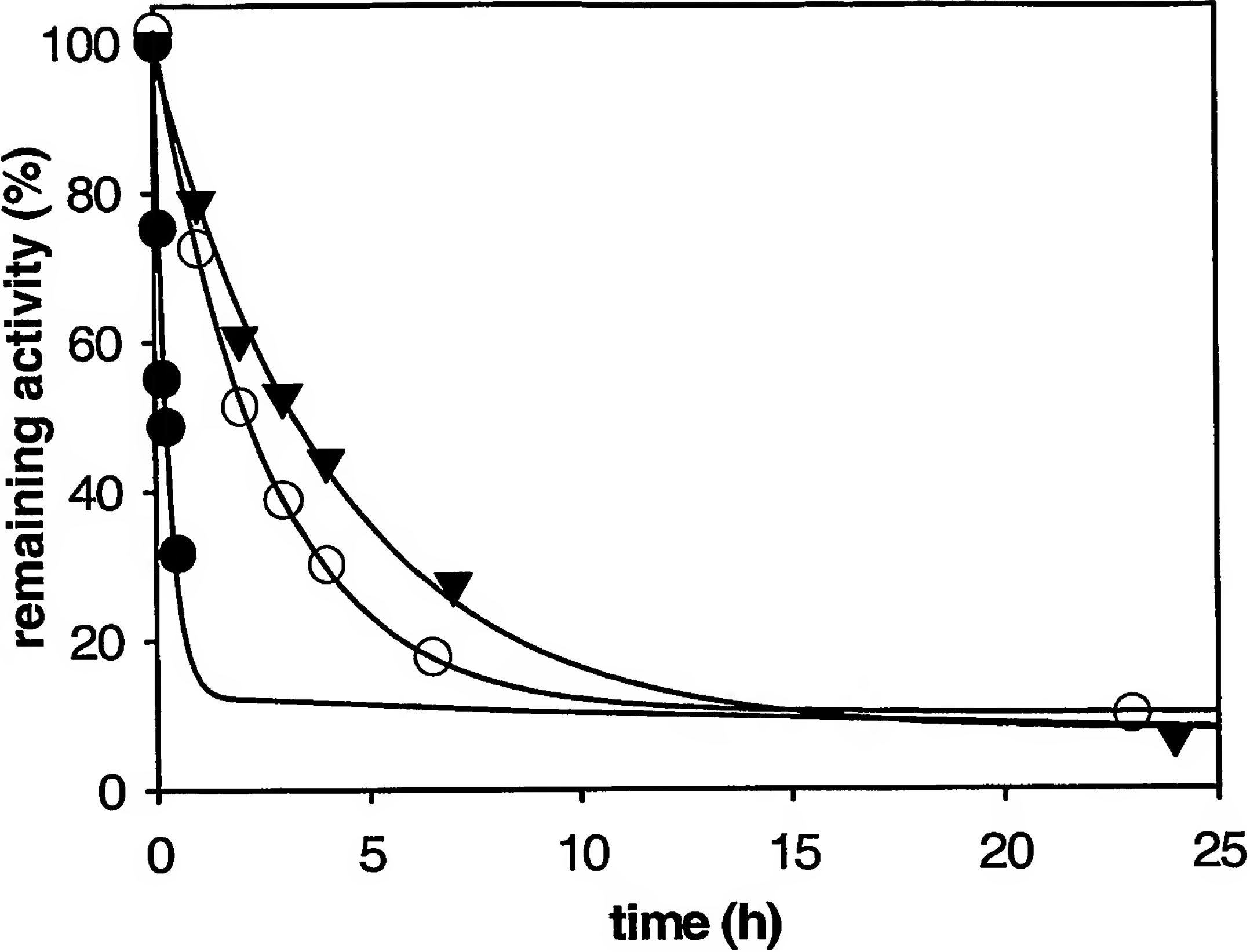
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SEQ ID NO:12 240 NRSAHKNNRCVGTDLNRNFASKHWCEKGASSSSCSETYCGLYPESEPEVKAVADFLRRNI
SEQ ID NO:13 240 NRSVHMNNRCVGTDLNRNFASKHWCEKGASSFSCSETYCGLYPESEPEVKAVADFLRRNI
SEQ ID NO:2 241 NRSFYANNHCVGTDLNRNFASKHWCEEGASSSSCSETYCGLYPESEPEVKAVASFLRRNI

30
SEQ ID NO:12 300 DHIKAYISMHSYSQILFPYSYNRSKSKDHEELSLVASEAVRAIESINKNTRYTHGSGSE
SEQ ID NO:13 300 NHIKAYISMHSYSQILFPYSYNRSKSKDHEELSLVASEAVRAIESINKNTRYTHGSGSE
SEQ ID NO:2 301 NQIKAYISMHSYSQIIVFPYSYTRSKSKDHEELSLVASEAVRAIEKTSKNTRYTHGSGSE

35
SEQ ID NO:12 360 SLYLAPGGSDDWIYDLGIKYSFTIELRDTGRYGFLLPERYIKPTCAEALAAISKIVWHVI
SEQ ID NO:13 360 SLYLAPGGSDDWIYDLGIKYSFTIELRDTGRYGFLLPERFIKPTCAEALAAVSKIAWHVI
SEQ ID NO:2 361 TLYLAPGGGDDWIYDLGIKYSFTIELRDTGTYGFLPERYIKPTCREAFAAVSKIAWHVI

40
SEQ ID NO:12 420 RNT
SEQ ID NO:13 420 RNS
SEQ ID NO:2 421 RNV

Figure 1.



5

10

Figure 2

Name of the clone															
WT	K166	I204	V219	Y230	I251	H315	S327	K346	T347	S348	K349	N350	R352	H355	H357
F1.1.65 B7	N					R	C								P
F1.1.65 E2						R	C					S			Q
F1.1.71 F5							C			N					Q
F1.1.11 E3					T	R	C					S			Q
F1.1.65 C3						R	C						K		
F1.1.21 B10	N					R	C					S			Q
F1.2.28 G7						R	C							Y	
F1.2.44 B9			A			R	C								
HQ														Y	Q
HP														Y	P
GM2:65D2						R	C								
F1.1.65 B7+R315H	N						C								P
F1.1.11 E3+R315H					T		C					S			Q
F1.2.28 G7+R315H							C							Y	
F1.1.71 F5+N348S							C								Q
F1.1.71 F5+H355Y							C			N				Y	Q
HQ+S348H										N				Y	Q
HQ+T347I									I					Y	Q
HQ+S327P							P							Y	Q
HQ+N350S												S		Y	Q
F2.1-31F7					T									Y	Q
F2.1-47C11		T		C						N					Q
F2.1-60G8							C							Y	Q
F2.2.39C3a	N						C				R			Y	Q
F2.2.39C3b	N						C							Y	Q
F2.2.134E11							C	N						Y	Q
SEQ ID NO: 12	K165	K203	I218	Y229	V250	Q314	S326	S345	I346	N347	K348	N349	R351	H354	S356
SEQ ID NO: 13	K165	K203	I218	Y229	V250	Q314	S326	S345	I346	N347	K348	N349	R351	H354	S356

Figure 3